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| 10/610,932   | 07/02/2003  | Hideaki Takahashi    | 239740US90          | 2545             |
| 22850  | 7590        | 06/02/2008           |                     |                  |
| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.<br>1940 DUKE STREET<br>ALEXANDRIA, VA 22314 |             |                      |                     |                  |
| EXAMINER   |             |                      |                     |                  |
| GONZALEZ, AMANCIO  |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 2617   |             |                      |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/610,932

**Applicant(s)**

TAKAHASHI ET AL.

**Examiner**

AMANCIO GONZALEZ

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This action is in response to Applicant's amendment filed on 02/20/2008. Claims 1-26 are still pending in the present application. This rejection is made **FINAL**.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1, 3, 10, 19, 21, 22, and 24-26 as amended, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US 20030187975 A1), hereafter "Brown," in view of Haraguchi et al. (US Pat. Number 5,425,023), hereafter "Haraguchi", further in view of Schroeder et al. (US 6341129 B1), hereafter "Schroeder."

Consider claim 1 as amended. Brown discloses a packet communication system comprised of nodes and links (see pars. 0022, 0023, fig. 1, where Brown discusses a network with links interconnecting various communication nodes).

Brown discloses a node being a destination node as a destination of a packet transmitted from a correspondent node (**correspondent node reads on sending node -0037 lines 20-23**).

a. Brown discloses an advertisement receiver configured to receive advertisement of path information about a path from the correspondent node to the destination node (**see par. 0041 lines 11-21, 0043 lines 4-6, 0045 lines 1-5, where Brown discusses performing a path MTU or PMTU announcing the MTU to a receiving unit**).

Brown discloses whether a discovery of a Path MTU of the path from the correspondent node to the destination node should be executed (**see the abstract, lines 5-9, par. 0051, claim 1, and fig. 9**).

Brown discloses announcing a Path MTU (**see par. 0045 lines 1-5**).

Brown discloses performing Path MTU discovery (**see pars. 0045, 0050, where Brown discloses the transmitting host performing a Path MTU discovery**), but does not particularly refer to setting the Path MTU on the basis of the path information. Haraguchi teaches setting the Path MTU on the basis of the path information (**see col. 4 lines 38-45, col. 5 lines 5-15, col. 9 lines 30-53, col. 10 lines 5-7, figs. 7A and 7B, where Haraguchi discusses receiving and transfer nodes updating MTU upon receiving change informing packets**).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Brown and have it include setting the Path MTU on the basis of the path information, as taught by Haraguchi, thereby

providing means for managing a maximum transfer unit for the purpose of preventing data from being divided in end user systems and network transfer devices interconnected together in a network system, as discussed by Haraguchi (see col. 1 lines 8-25).

The combined prior art references of Brown and Haraguchi do not particularly refer to a Path MTU discovery execution determining whether a discovery of a Path MTU of the path from the correspondent node to the destination node should be executed, based on the path information, or when the Path MTU discovery execution determining unit determines that the discovery of the Path MTU should be executed.

Schroeder discloses wherein a Path MTU discovery execution determining whether a discovery of a Path MTU of the path from the correspondent node to the destination node should be executed, based on the path information, or when the Path MTU discovery execution determining unit determines that the discovery of the Path MTU should be executed (see col. 1 lines 39-48).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined prior art references of Brown and Haraguchi and have it include setting the Path MTU on the basis of the path information, as taught by Schroeder, thereby providing means for the purpose of implementing resource-suitable routing algorithms in packet transmission.

Claims 3, 19, 21, 22, and 24 address the same subject matter as claim 1, therefore same rejection applies.

Consider claim 10 as amended, Brown as modified by Haraguchi and Border teaches claim 1; Brown further teaches announcing a Path MTU (see Brown: par. 0045 lines 1-5); and Haraguchi further teaches updating the Path MTU (see Haraguchi: col. 4 lines 18-25, where Haraguchi discusses updating MTU values).

5. Claims 2, 4-7, 12, and 23, as amended, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US 20030187975 A1), hereafter "Brown," in view of Armitage (US 20020026525 A1), hereafter "Armitage," further in view of Schroeder et al. (US 6341129 B1), hereafter "Schroeder."

Consider claim 2 Brown discloses a packet communication system comprised of nodes and links (**see pars. 0022, 0023, fig. 1, where Brown discusses a network with links interconnecting various communication nodes**). Brown discloses a node being a destination node as a destination of a packet transmitted from a correspondent node (**correspondent node reads on sending node -0037 lines 20-23**). Brown discloses advertisement of information about a path from the correspondent node to the destination node (**see par. 0041 lines 11-21, 0043 lines 4-6, 0045 lines 1-5, where Brown discusses performing a path MTU or PMTU announcing the MTU to a receiving unit**). Brown discloses whether a discovery of a Path MTU of the path from the correspondent node to the destination node should be executed (**see par. 0051, claim 1, and fig. 9**). Brown discloses announcing a Path MTU (**see par. 0045 lines 1-5**). Brown discloses announcing a Path MTU (**see par. 0045 lines 1-5**).

Brown discloses performing Path MTU discovery and determining whether a discovery of a Path MTU of the path from the correspondent node to the destination node should be executed (see pars. 0045, 0050, 0051, claim 1, fig. 9, where Brown discloses the transmitting host performing a Path MTU discovery and whether said discovery is to be executed, hence implicitly calculating the Path MTU), but does not particularly refer to multiple tunnel entry-point. Armitage teaches multiple tunnel entry-point (*tunneling reads on encapsulation*, -see pars. 0027, 0031, 0038, 0039, 0043, 0045, 0046, where Armitage discusses a multi-Host, distributed next hop and encapsulation).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Brown and have it include multiple tunnel entry-points, as taught by Armitage, thereby providing means for optimizing node mobility in IP routing, as discussed by Armitage (see pars. 0003, 0008, and 0009).

The combined prior art references of Brown and Haraguchi do not particularly refer to a Path MTU discovery execution determining whether a discovery of a Path MTU of the path from the correspondent node to the destination node should be executed, based on the path information, or when the Path MTU discovery execution determining unit determines that the discovery of the Path MTU should be executed.

Schroeder discloses wherein a Path MTU discovery execution determining whether a discovery of a Path MTU of the path from the correspondent node to the destination node should be executed, based on the path information, or when the Path

MTU discovery execution determining unit determines that the discovery of the Path MTU should be executed (see col. 1 lines 39-48).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined prior art references of Brown and Haraguchi and have it include setting the Path MTU on the basis of the path information, as taught by Schroeder, thereby providing means for the purpose of implementing resource-suitable routing algorithms in packet transmission.

Claims 20 and 23 address the same subject matter as claim 2, therefore same rejection applies.

Consider claims 4, 7, and 12 as amended, Brown as modified by Armitage and Border teaches claim 2, and Armitage further teaches nodes mobility in IP network (see Armitage: the title, abstract, pars. 0003, 0010).

Consider claims 5 and 6 as amended, Brown as modified by Armitage and Border claim 4; Border further teaches whether a discovery of a Path MTU should be executed (see Border: par col. 23 lines 59-67 and col. 24 lines 1-3), and Armitage further teaches IP node mobility (see Armitage: the title, abstract, pars. 0003, 0010).

6. Claims 8, 9, 11, and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US 20030187975 A1), hereafter "Brown," in view of Haraguchi et al. (US Pat. Number 5,425,023), hereafter "Haraguchi", further in view of



Schroeder et al. (US 6341129 B1), hereafter "Schroeder," further in view of Armitage (US 20020026525 A1), hereafter "Armitage."

Consider claims 8 and 13, 14 as amended, Brown, as modified by Haraguchi and Border, teaches claim 3, and Brown further teaches an advertisement receiver configured to receive advertisement of path information about a path from the correspondent node to the destination node (see par. 0041 lines 11-21, 0043 lines 4-6, 0045 lines 1-5, where Brown discusses performing a path MTU or PMTU announcing the MTU to a receiving unit), but does not particularly refer to node mobility in the IP network. Armitage teaches node mobility in an IP network (see Armitage: the title, abstract, pars. 0003, 0010). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Brown as modified by Haraguchi and Border and have it include node mobility in an IP network, as taught by Armitage, thereby providing means for optimizing node mobility in IP routing, as discussed by Armitage (see pars. 0003, 0008, 0009).

Consider claim 9 as amended, Brown, as modified by Haraguchi, Border, and Armitage, teaches claim 8; Brown further teaches performing Path MTU discovery and execution (see pars. 0045, 0050, 0051, where Brown discloses the transmitting host performing a Path MTU discovery); Armitage further teaches nodes mobility in IP network (see Armitage: the title, abstract, pars. 0003, 0010); and Haraguchi teaches updating the Path MTU (see Haraguchi: col. 4 lines 18-25, where Haraguchi discusses updating MTU values).

Consider claim 11 as amended, Brown, as modified by Haraguchi and Border, teaches claim 10, and Haraguchi teaches updating the Path MTU (see Haraguchi: col. 4 lines 18-25, where Haraguchi discusses updating MTU values), but the combined references do not particularly refer to node mobility in the IP network. Armitage teaches node mobility in an IP network (see Armitage: the title, abstract, pars. 0003, 0010). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Brown as modified by Haraguchi and Border and have it include node mobility in an IP network, as taught by Armitage, thereby providing means for optimizing node mobility in IP routing, as discussed by Armitage (see pars. 0003, 0008, 0009).

Consider claims 15, 16, 17, and 18, Brown, as modified by Haraguchi, Border, and Armitage, teaches claim 4, and Brown further teaches Path MTU discovery and announcement (Path MTU discovery implies Path MTU calculation –see Brown: pars. 0045, 0050, 0051); Armitage further teaches tunneling (see Armitage: *tunneling* reads on *encapsulation*, -see pars. 0027, 0031, 0038, 0039, 0043, 0045, 0046, where Armitage discusses a multi-Host, distributed next hop and encapsulation) and a home agent (see Armitage: abstract, pars. 0005, 0007, 0009-0011).

Consider claims 25 and 26, Brown, as modified by Haraguchi and Border, teaches claim 1, and Brown further teaches an advertisement receiver configured to receive advertisement of path information about a path from the correspondent node to the destination node (see par. 0041 lines 11-21, 0043 lines 4-6, 0045 lines 1-5, where Brown discusses performing a path MTU or PMTU announcing the MTU to a receiving

unit), but does not particularly refer to node mobility in the IP network or tunneling. Armitage teaches node mobility in an IP network and tunneling (see Armitage: the title, abstract, pars. 0003, 0010, where Armitage discusses mobility in IP network; see *tunneling reads on encapsulation*, -see pars. 0027, 0031, 0038, 0039, 0043, 0045, 0046, where Armitage discusses a multi-Host, distributed next hop and encapsulation). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Brown and Haraguchi and have it include node mobility in the IP network or tunneling, as taught by Armitage, thereby providing means for optimizing node mobility in IP routing, as discussed by Armitage (see pars. 0003, 0008, 0009).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 2617

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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P.O. Box 1450  
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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Amancio Gonzalez, whose telephone number is (571) 270-1106. The Examiner can normally be reached on Monday-Thursday from 8:00 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Charles Appiah, can be reached at (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

AG/ag

May 21, 2008

/George Eng/  
Supervisory Patent Examiner, Art Unit 2617